REMARKS

The Office Action dated October 27, 2005 has been received and carefully noted. The period for response having been extended from January 27, 2006 until March 27, 2006 by the attached Petition for Extension of Time, the following remarks are submitted as a full and complete response thereto. Claims 1-11 and 13-21 are submitted for consideration.

Claims 1-11 and 13-21 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,108,374 (Balachandran). The rejection is traversed as being based on a reference that neither teaches nor suggests the novel combination of features clearly recited in independent claims 1, 16 and 21.

Claim 1, upon which claims 2-11 and 13-15 depend, recites an apparatus for a first communication station operable to transmit data upon a communication channel, the apparatus is used for dynamically selecting at least a first switching threshold used in selection of a modulation parameter. The apparatus includes a calculator adapted to receive indications of a selected communication indicia associated with communication characteristics of the communication channel during a selected interval. The calculator is configured to select the at least first switching threshold. The first switching threshold is changeable responsive to changes in the selected communication indicia and the first switching threshold is selected by the calculator to at least satisfy a first performance criteria and to satisfy at least a second performance criteria.

Claim 16, upon which claims 17-20 depend, recites a method for communicating data by a first communication station upon a communication, the method being used for dynamically selecting at least a first switching threshold used in selection of a modulation parameter. The method includes selecting the at least first switching threshold responsive to indications of a selected communication indicia associated with communication characteristics of the communication channel during a selected interval. The first switching threshold is selected to at least satisfy a first performance criteria and to satisfy at least a second performance criteria. The method also includes selecting the modulation parameter by which the data is operated upon by the first communication station prior to transmission upon the communication channel. The method further includes changing the at least first switching threshold responsive to changes in the indication s of the selected communication indicia and selectably changing the modulation parameter responsive to changes in the at least first switching threshold.

Claim 21 recites an apparatus for a first communication station operable to transmit data upon a communication channel, the apparatus is used for dynamically selecting at least a first switching threshold used in selection of a modulation parameter. The apparatus includes a processor having a linear-reward-inaction learning algorithm executable thereat and coupled to receive indications of a selected communication indicia associated with communication characteristics of the communication channel during a selected interval. The linear-reward-inaction learning algorithm is configured to select the at least first switching threshold. The first switching threshold is selected by the

linear-reward-inaction learning algorithm to at least satisfy a first performance criteria and to satisfy at least a second performance criteria.

As outlined below, Applicant submits that the cited reference of Balachandran does not teach or suggest the elements of claims 1-11 and 13-21

Balachandran teaches a system and method for determining the signal to interference plus noise ratio which provides for establishing a set of path metrics corresponding to a set of predetermined signal to interference plus noise ratio. Figure 12 shows a system using the signal to interference plus noise ratio to do power control, wherein the system may be implemented in a base station or a mobile station. First the system organizes information to be transmitted in a transmit data stream which is input into a transmitter of the system. The transmit data steam is then encoded and modulated by a channel encoder and modulator, in the transmitter, where the transmit power level at the channel encoder and modulator is controlled by a power control algorithm circuit. The power control algorithm circuit may determine the control level in response to a received signal to interference plus noise ratio estimate from the receiver. The power control algorithm circuit may also determine the power control level in response to the signal strength and bit error rate estimate received from the receiver.

Initially, the power control algorithm circuit, of Balachandran, is set to a predetermined value which is input to the channel encoder and modulator that encodes and modulates the transmit data stream using a predetermined encode and modulation scheme and transmits the information at a predetermined power level through a channel

to the receiver. After the information is received at the receiver, it is input to the channel decoder and demodulator which produces a value of the Viterbi decoder metric for the received information signal, produces estimates of the signal strength and bit error rate, and produces the received data stream which should be the same as information sent by the transmit data stream. The value of the Viterbi decoder metric is averaged by an aggregate/averaging circuit, producing a moving average value for the Viterbi decoder metric which is mapped to the signal to interference plus noise ratio estimate by a mapping circuit. A resulting signal to interference plus noise ratio is fed back into the power control algorithm circuit to determine a power control value corresponding to the signal to interference plus noise ratio estimate. The new power control value of the power control algorithm circuit is input into the channel encoder and modulator for use in subsequent transmissions of the data stream over the channel to the receiver. Col. 10, line 57-Col. 11, line 35.

Applicant submits that Balachandran simply does not teach or suggest the combination of elements clearly recited in claims 1-11 and 13-21. Each of claims 1 and 21, in part, recites that the calculator is configured <u>to select</u> at least the first switching threshold, the first switching threshold being selected by the calculator to at least satisfy a first and second performance criteria. Claim 16 recites, in part, that the linear-reward-inaction learning algorithm is configured <u>to select</u> at least the first switching threshold, the first switching threshold being selected by the calculator to at least satisfy a first and second performance criteria. The Office Action seems to equate the power control

algorithm circuit 212 of Balachandran with the calculator/ linear-reward-inaction learning algorithm recited in claims 1, 16 and 21. As noted above, Balachandran teaches that initially, the power control algorithm circuit is set to a predetermined value which is input to the channel encoder and modulator that encodes and modulates the transmit data stream using a predetermined encode and modulation scheme and transmits the information at the predetermined power level through a channel to the receiver. The power control algorithm circuit does not select the initial predetermined value as alleged by the Office Action. Therefore, Balachandran does not teach or suggest a calculator/ linear-reward-inaction learning algorithm that is configured to select at least the first switching threshold as recited in claims 1, 16, and 21.

The Office Action also states that Col. 9, lines 1-30 of Balachandran teaches that the first switching threshold is selected by the calculator to at least satisfy first and second performance criteria. The cited section of Balachandran discloses a way of mapping the signal to interference plus noise ratio to a frame error rate. If as the Office Action alleges the power control value of the power control algorithm circuit, in Balachandran, is equivalent to the first switching threshold recited in claims 1, 16, and 21, there is no teaching or suggestion in the cited sections of Balachandran of selecting the first switching threshold, by the calculator/linear-reward-inaction learning algorithm, to at least satisfy a first and second performance criteria as recited in claim 1, 16 and 21. Therefore, Applicant respectfully asserts that the rejection under 35 U.S.C. §103(a)

should be withdrawn because Balachandran does not teach or suggest each feature of claims 1, 16, and 21 and hence, dependent claims 2-11, 13-15, and 17-20 thereon.

As noted previously, claims 1-11 and 13-21 recite subject matter which is neither disclosed nor suggested in the prior art references cited in the Office Action. It is therefore respectfully requested that all of claims 1-11 and 13-21 be allowed and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicant's undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicant respectfully petitions for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,

Arlene P. Neal
Registration No. 43,828

Customer No. 32294
SQUIRE, SANDERS & DEMPSEY LLP
14TH Floor
8000 Towers Crescent Drive
Tysons Corner, Virginia 22182-2700
Telephone: 703-720-7800
Fax: 703-720-7802

APN:scw

Enclosures: Petition for Extension of Time (2 months)